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A NEW VARIETY OF SEDUM ROSEA FROM SOUTH-EASTERN MINNESOTA AND ADDITIONAL NOTES ON THE FLORA OF THE REGION[1, 2]

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(Plate 1086)

1. A New Variety of Sedum Rosea (L.) Scop.*

In September of 1936 John L. Leedy, then a student of the University of Minnesota, discovered a *Sedum* growing on the north face of limestone cliffs along the north fork of the Root River about three miles south of Simpson, Olmsted County, Minnesota. The material brought in was not sufficient for a specific determination and it was suspected at the time that the plants might represent strays from cultivation. Additional specimens from the same locality were collected by Mr. Leedy in July of 1938 and again in July of 1942. In September of 1942 John W. Moore in company with Mr. Leedy and E. P. Thatcher secured staminate and pistillate plants. A study of these collections has proven them to be *Sedum Rosea* (L.) Scop. The plants are polygamodioecious with only a few perfect flowers. Their habit is sufficiently different from the typical form and all the described American varieties to warrant describing the entity as a new variety.

[1] Contributions from the Herbarium of the University of Minnesota IV.

[2] The field work was supported in part by grants in aid of research from the Graduate School of the University of Minnesota.

* The orthography of Sedum Rosea has been discussed by M. L. Fernald in Rhodora 49; 79-81, 1947.

SEDUM ROSEA (L.) Scop. var. **Leedyi** varietas nova[3] (Plate 1086) A varietate typica differt; caules altiores, usque ad 45 cm. alti; folia plura, in caule usque ad 90, pro rata longiora angustioraque, longiora quam sunt lata circiter sexiens et dimidia parte, aut plerumque integra aut paucis dentibus remotis et extensis et exstantibus supra medium instructa; flores staminiferi petalis purpurellis pistilliferi petalis viridibus et eodem tempore flavis instructi; fructus pedicellis longioribus gracilioribusque instructus.—The type collection consists of staminate plants and pistillate plants each with a few perfect flowers. From northeast-facing limestone cliffs, north branch of the Root River opposite the Herman McDaniel farm about 3 miles south of Simpson, Minnesota, July 12, 1942, *John L. Leedy* (Herb. Minn.). Additional specimens from the same locality are: July 23, 1938, *Leedy;* and September 24, 1942, *Moore, Leedy, and Thatcher*, No. 15691.

In the species as well as all of the hitherto described American varieties the leaves are obovate, less numerous per stem, mostly up to 3½ times longer than broad, entire or more often with few to several low teeth. In the new variety the leaves are narrowly oblanceolate, averaging 6½ times longer than broad, mostly entire or with a few prominent, porrect, irregularly spaced teeth above the middle.

2. JEFFERSONIA AND SOME OTHER LOCAL PLANTS OF SOUTHEASTERN MINNESOTA

A recent find which marks a very considerable northwestward extension of range of a typical alleghenian species is the occurrence of *Jeffersonia diphylla* (L.) Pers. in the upper gorge of the White Water River in Winona County. The station is about thirty miles northeast from where the *Sedum* occurs. This discovery, too, is credited to one of our botany students, Mr. Arnold Schultz. On the sixteenth of June, 1942, in company with the late F. K. Butters and Mr. Schultz the writers visited the place and found *Jeffersonia* growing in abundance on the steep talus slope of towering dolomite cliffs. The plants were past the blossoming stage but ample fruiting specimens were collected and prepared for herbarium record.[4]

[3] The variety is named for John L. Leedy.

[4] Upper gorge of the White Water River, St. Charles Township, SE¼ Sect. 1, Winona County, Minnesota, June 16, 1942, *Rosendahl, Butters, Moore, and Schultz*, No. 7538.

Other plants of local occurrence in southeastern Minnesota associated with *Jeffersonia* were: CYSTOPTERIS FRAGILIS (L.) Bernh. var. PROTRUSA Weatherby, No. 7530; MILIUM EFFUSUM L., No. 7556; ZIGADENUS GLAUCUS Nutt., No. 7537; VIOLA ERIOCARPA Schwein., No. 7555; HYDRASTIS CANADENSIS L., No. 7551. In Minnesota *Hydrastis* is now known to grow only in Winona County. Although it was reported from Stearns County by Upham[5], we have seen no specimens to substantiate this report. The only other collections of *Hydrastis* in the University of Minnesota Herbarium are those of J. M. Holzinger made in Winona County in May 1899, and his Bear Creek, Winona County specimens collected in May 1901.

On a subsequent collecting trip to the same station ASTER SHORTII Lindl. ex Hooker was collected in the proximity of the *Jeffersonia* patch, Oct. 4, 1946, *Moore and Huff*, No. 19343. It was found to be locally abundant. I. A. Lapham lists *Aster Shortii* without locality[6] and Warren Upham[7] reports it from the "Southeast" part of the state and cites Lapham. Extant specimens in the University of Minnesota Herbarium are three sheets collected at Lanesboro, Fillmore County, by J. H. Hvoslef, and a specimen collected on a wooded slope of a valley 3–4 miles north of Choice, also in Fillmore County, August 14, 1927, *Rosendahl*, No. 5368.

On a west-facing slope near where *Jeffersonia* was found POA SYLVESTRIS A. Gray was encountered along a "wood road" (No. 7529). At present this is the only known station for the grass in Minnesota, but it may prove to be less scarce in the southeastern part of the state than indicated, for it had previously been collected in Winneshiek County, Iowa, near the Iowa-Minnesota state line, June 24, 1915, *Rosendahl*, No. 3055. Farther down the above mentioned slope CAREX CEPHALOIDEA Dewey grew in moist soil along the roadside, No. 7543. The

[5] Upham, Warren, Catalogue of the Flora of Minnesota, the Geological and Natural History Survey of Minnesota, Part VI of the Annual Report of Progress for the Year 1883, p. 20, 1884.

[6] Lapham, I. A., A Catalogue of the Plants of Minnesota. Report of the State Horticultural Society for 1875, p. 101. Professor N. C. Fassett has informed us that he has not been able to locate any Lapham specimens of *Aster Shortii* from Minnesota in the University of Wisconsin Herbarium.

[7] Upham, Warren, Catalogue of the Flora of Minnesota, The Geological and Natural History Survey of Minnesota, Part VI of the Annual Report of Progress for the Year 1883, p. 71, 1884.

species is evidently of very rare and local occurrence in the state for it is represented by only one other collection, namely that of *Rosendahl and Butters* No. 3246, June 14, 1916, from boggy bottomlands five miles east of Mankato[8].

Despite a good deal of careful collecting in southeastern Minnesota covering a period of nearly fifty years the following species are known mostly from only one or rarely from two or three closely contiguous stations.

Botrychium dissectum Spreng. was collected in Nerstrand Woods, a hardwood forest in Rice County, SE¼, Sect. 9, Wheeling Township, October 5, 1930, *Rosendahl*, No. 6398. In 1931 this specimen was reported upon by E. W. Graves[9], but the locality there given is not too exact. This is the typical form of the species, and is not known to occur in any other locality in Minnesota. The plant is of very rare occurrence west of the Mississippi River. Only five localities were given by Mr. Graves west of that river throughout its entire course.

Pellaea atropurpurea (L.) Link is known to grow at one station, Jefferson, Houston County, August 3, 1899, *H. L. Lyon*, where it was collected a second time on August 20, 1936, *Rosendahl and Butters*, No. 6700.

Echinochloa Walteri (Pursh) Nash[10]. This Cockspur Grass is represented by a single collection from a quaking bog on the Mississippi River bottoms, Weaver, Wabasha County, August 28, 1926, *Fassett and Hotchkiss*, No. 2906. N. C. Fassett has cited this specimen in Rhodora, **32:** 58, 1930.

Melica nitens Nutt. ex Piper is known from two stations along the Root River. In 1902 it was discovered 3–4 miles northeast of Whalen, Sect. 2, Holt Township, Fillmore County, *Rosendahl*, No. 592[11] and a mile or so down stream at a point three miles west of Rushford in sandy soil of wooded roadside, Fillmore County, June 21, 1915, *Rosendahl and Butters*, No. 2995. The specimens in question are typical *Melica nitens* Nutt. ex Piper.

[8] An earlier report by the senior author of the occurrence of *Carex cephaloidea* in southeastern Minnesota has proved to be incorrect. It was based on his collections No. 433 and 457 from Spring Grove, Houston County, both of which are *Carex gravida* Bailey.

[9] Graves, E. W., *Botrychium dissectum* from Minnesota, American Fern Journal, **21:** 21–24, January–March, 1931.

[10] This species was first reported by W. A. Wheeler, Minnesota Botanical Studies, **3:** 84–85, 1903. However, it seems apparent that the specimens there listed were the long-bearded variety of *Echinochloa Crus-galli* (L.) Beauv. This also applies to John B. Moyle's report in Rhodora, **40:** 275, 1938. The plants cited in his article all belong to *Echinochloa Crus-galli* (L.) Beauv. var. *longiseta* (Trin.) Hara. At present *Echinochloa Walteri* is known only from Weaver.

[11] This collection was reported in 1903 as *Melica diffusa* Pursh, Rosendahl, C. O., Minnesota Botanical Studies, **3:** 261, July 3, 1903.

LEERSIA LENTICULARIS Michx. has been collected at three stations: Jefferson, Houston County, August 17, 1900 by *H. L. Lyon;* in wet woods near West Newton, Weaver, Wabasha Co., Aug. 23, 1926, *Fassett and Hotchkiss*, No. 3060 (Herb. Gray)[12]; and Winona, *J. M. Holzinger*, No. 33, without definite date, (Herb. Gray).

POA WOLFII Scribn. is known from a single collection from a woods on a sandy hillside near Spring Grove, Houston County, June 3, 1902, *Rosendahl*, No. 285.

CAREX CRUS-CORVI Shuttlw. comes from two stations: one collection is from Red Wing, Goodhue County, August 1885, *Sandberg;* and one from a shady swale, near foot of West Newton slough, Weaver, Wabasha County, August 23, 1926, *Fassett and Hotchkiss*, No. 3087 (Herb. Gray).

CAREX LAEVIVAGINATA (Kükenth.) Mackenzie is from a creek-bed in moist soil near Spring Grove, Houston County, June 10, 1902, *Rosendahl*, No. 456.

CORALLORHIZA ODONTORHIZA Nutt, has been collected but once in Minnesota, in white oak, red oak, shellbark hickory forest, Sect. 22, Spring Grove Township, Houston County, August 1899, *Rosendahl*, No. 1158. This collection was examined by Mr. A. M. Fuller who established its identity. The occurrence of this late-flowering coral-root in Minnesota was first noted by him in the Orchids of Wisconsin[13].

PARONYCHIA CANADENSIS (L.) Wood, a plant previously known as *Anychia canadensis* (L.) B. S. P., was first reported from Minnesota by I. A. Lapham under the name *Anychia dichotoma* Michx. as early as 1875[14]. J. M. Holzinger collected it on Trempealeau Mountain in Wisconsin, a high island in the Mississippi River below Winona, August, 1897. Two years later the plant was collected near Spring Grove, Houston County, August 25, 1899, *Rosendahl*, No. 1160, and again at the same station, July 30, 1909, No. 2322, August 3, 1919, No. 3846, and June 27, 1920, *Rosendahl and Butters*, No. 3929. Aside from this locality no specimens have been seen from elsewhere in Minnesota.

RORIPPA SESSILIFLORA (Nutt.) Hitchc. is known from two stations, Red Wing, Goodhue County, August 1884, *Sandberg*, and Winona, Winona County, August 1886, *Holzinger*.

[12] All collections cited in this paper are in the Herbarium of the University of Minnesota except those which are designated Herb. Gray which are in the Gray Herbarium, Harvard University, Cambridge, Massachusetts.

[13] Fuller, Albert M., Studies on the Flora of Wisconsin Part I: The Orchids; Orchidaceae, Bull. Pub. Mus. of the City of Milwaukee, **14:** No. 1, Feb. 1933, p. 139, map 24, p. 141.

[14] Lapham, I. A., A Catalogue of the Plants of Minnesota. Report of the State Horticultural Society for 1875, p. 94. A check was made at the University of Wisconsin Herbarium by N. C. Fassett and no Lapham specimen of this plant from Minnesota seemed to be extant. The report may well have been based upon a field determination.

SAXIFRAGA FORBESII Vasey has been found on wet sandstone ledges, northwest base of Gwinn's Bluff, Winona County. Presumably J. M. Holzinger's collection from a sandy wet spot of June 1886 was from the same locality. Collections are May 3, 1925, *Rosendahl*, No. 4789; July 2, 1920, *Rosendahl and Butters*, No. 3965, and the Holzinger specimen.

ASCLEPIAS PURPURASCENS L. was collected twice at Lake City in 1883: Lake City, Wabasha County, July 18, 1883, *Sara Manning*, and Lake City, July 23, 1883, *W. H. Manning* (Herb. Gray).

AUREOLARIA GRANDIFLORA (Benth.) Pennell var. PULCHRA Pennell is represented by one collection from the Winnebago Valley, Houston County, August 12, 1899, *Wheeler*, No. 512.

PRENANTHES CREPIDINEA Michx. is known from only a single collection, Jefferson, Houston County, August 29, 1900, *Lyon*, No. 755.

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A MEXICAN STATION FOR THREE MANUAL-RANGE AND SOUTHEASTERN PLANTS.—SCIRPUS RUBRICOSUS Fern. (*S. Eriophorum* Michx.) and TOVARA VIRGINIANA (L.) Raf. are represented in the Gray Herbarium by collections from Gray's Manual range and south to Florida and west to eastern Texas: the former in swamps, marshes and low woods to Dallas Co., Texas; the latter in rich woodlands and thickets to San Jacinto Co., Texas.

In early November, 1946, the writer had the opportunity of collecting about Lake Atexca near Molango in the state of Hidalgo, Mexico, where the two were discovered in close proximity: *Scirpus rubricosus* in shallow water of the marginal marsh (No. 2022), *Tovara virginiana* in moist thickets by the lakeside (No. 2024). This station, at about 1400 meters elevation, represents a southern extension into Mexico of approximately seven hundred miles for these species.

At another section of the bordering marsh, a third species of interest, HABENARIA REPENS Nutt. (No. 1932), formed an extensive colony among cattails and water-hyacinths. This plant does not extend into the Manual range but is found in swamps, ponds and lake-shores from North Carolina south to Florida and west to eastern Texas in the United States. Known also from